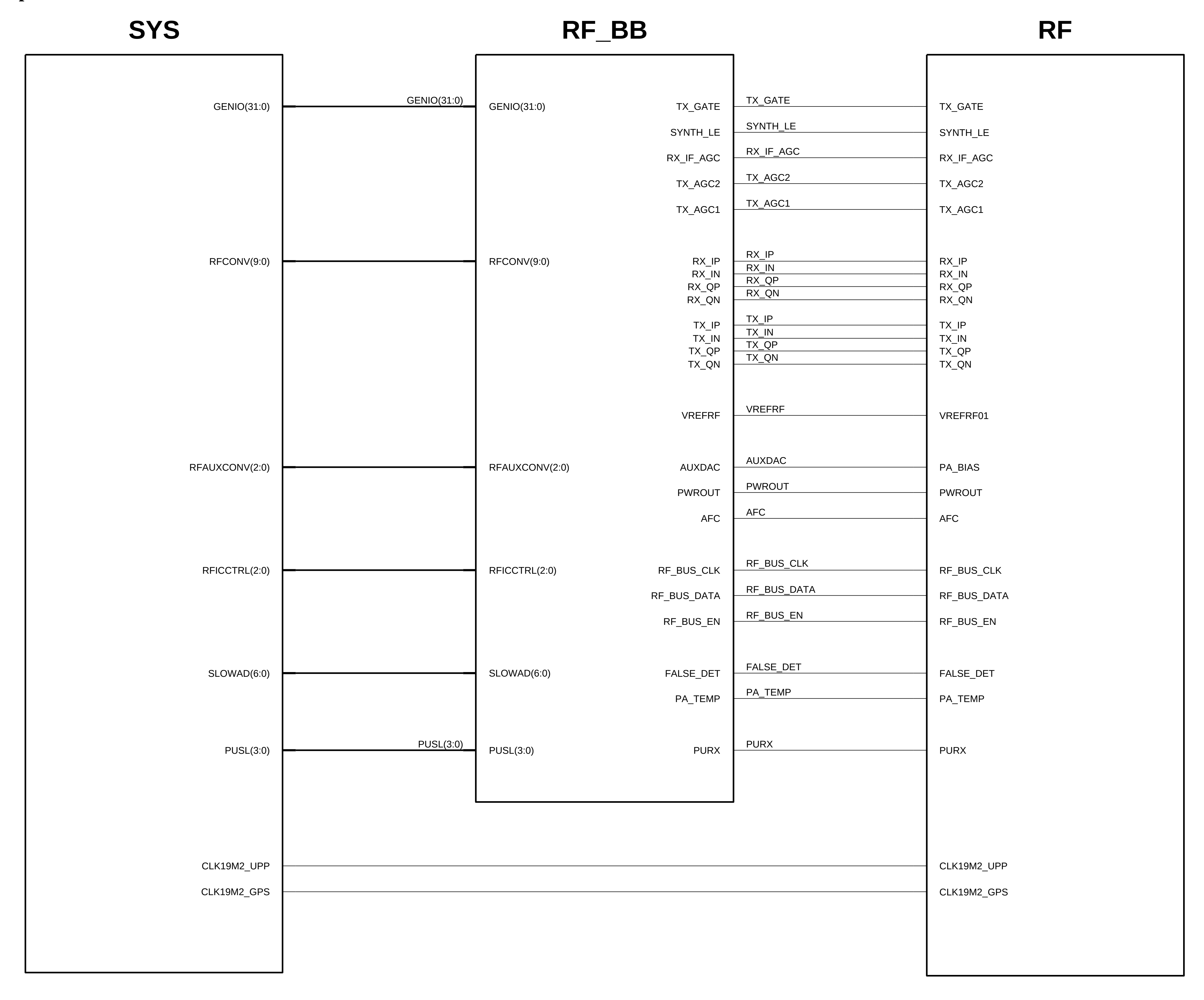
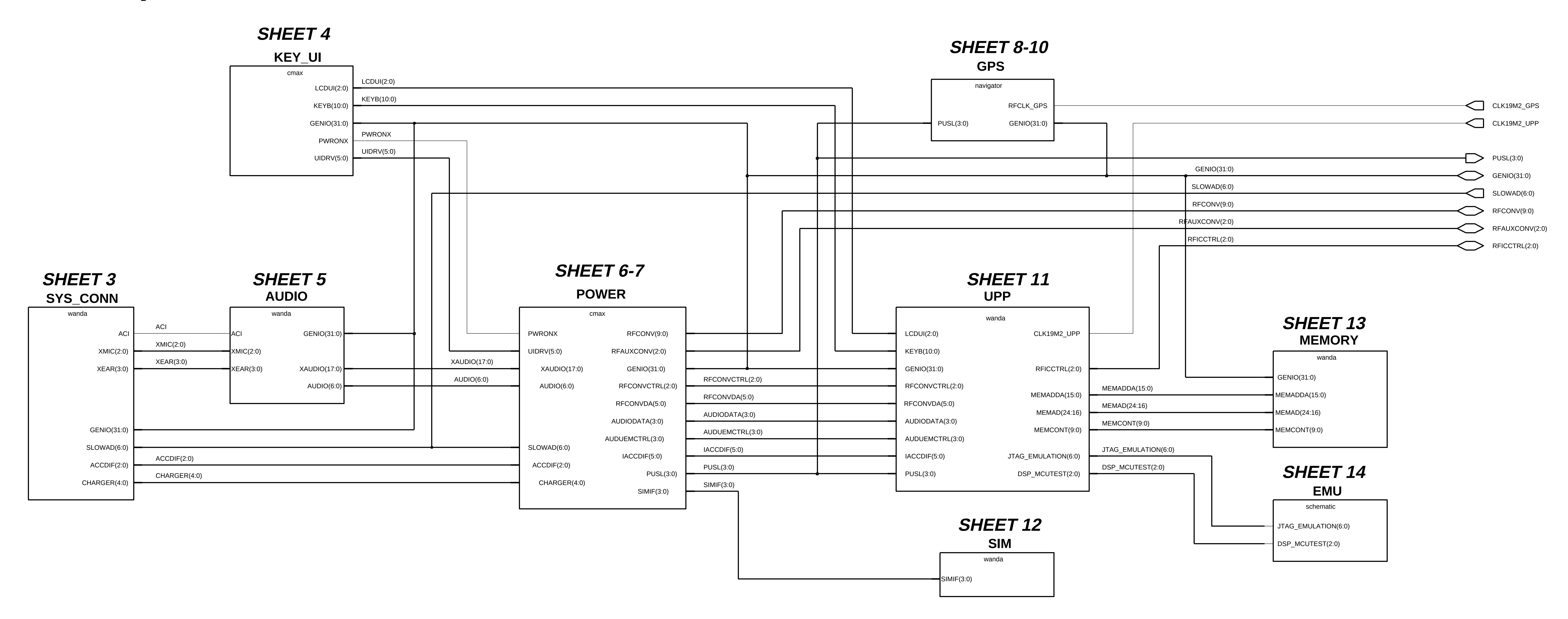
Top Level


SYS
RF_BB
RF
GENIO(31:0)
RFCONV(9:0)
RFAUXCONV(2:0)
RFICCTRL(2:0)
SLOWAD(6:0)
PUSL(3:0)
CLK19M2_UPP
CLK19M2_GPS
GENIO(31:0)
PUSL(3:0)
TX_GATE
SYNTH_LE
RX_IF_AGC
TX_AGC2
TX_AGC1
RX_IP
RX_IN
RX_QP
RX_QN
TX_IP
TX_IN
TX_QP
TX_QN
VREFRF
AUXDAC
PWROUT
AFC
RF_BUS_CLK
RF_BUS_DATA
RF_BUS_EN
FALSE_DET
PA_TEMP
PURX
VREFRF01
PA_BIAS

Baseband - Top Level



System Connector



BOTTOM CONNECTOR

CHARGER CONNECTOR
NOT_INSTALLED
X2003
VCHAR
GND
J2003 J2004
F2000 1.5A
L2000 42R/100MHz
V2000 1PMT16AT3
C2004 1n0
C2005 NOT_INSTALLED
Thick ground to follow VCHAR trace
CHARGER(4:0)

ACCESSORY REGULATOR
VBAT
LP3985ITLX-2.8_NOPB
N2000
VIN
VOUT
VEN
BYPASS
LP3985ITLX -2.8_NOPB
C2006 1u0
C2007 1u0
C2008 10n
R2001 100k
17
GENIO(31:0)
VFLASH1
ACI pull up
R2002 100k
ACI

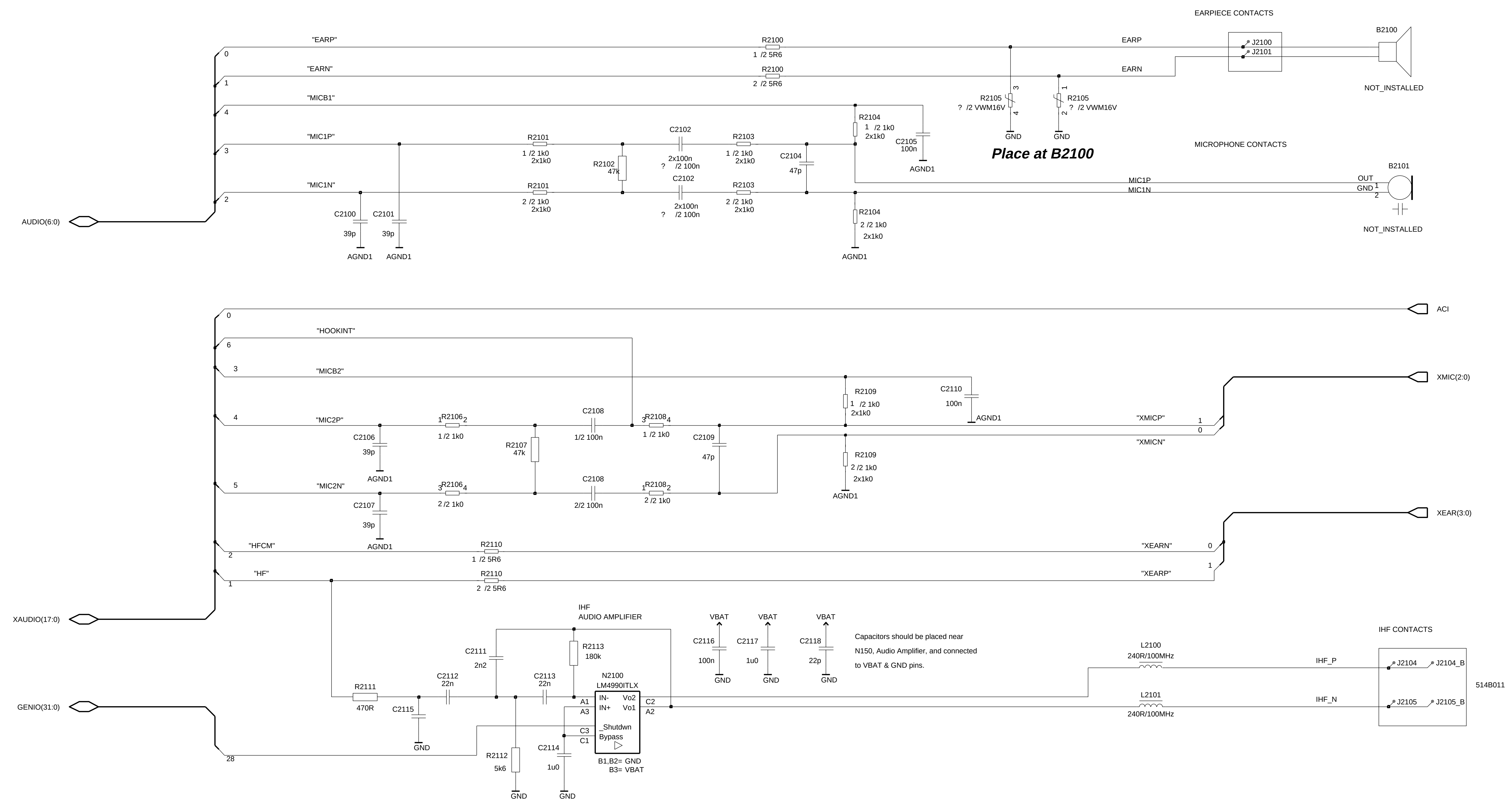
SYSTEM CONNECTOR
X2001
ACI
Vout
Fbus RX
Fbus TX
GND
AGND
ACICON
VOUT
FBUS_RX
FBUS_TX
L2001 600R/300mA
L2002 600R/300mA
R2003 2 /2 47R
R2003 1 /2 47R
R2004 2 /2 47R
R2004 1 /2 47R
R2006 2 /2 47R
R2006 1 /2 47R
PRODTP2 PRODTP3 PRODTP7
ACCDIF(2:0)
ESDA14V2-4BF2
Z2005
C2009 22p
C2010 22p
R2007 220k
C2011 22p
NOTE: PLACE CLOSE TO X2001 AS POSSIBLE

L2003 EXC24CB102U
XMIC_P
XMIC_N
L2004 EXC24CB102U
XEAR_P
XEAR_N
XMIC(2:0)
XEAR(3:0)
C2012 3n3
R2008
C2013 3n3
R2008
C2014 3n3
R2009
C2015 3n3
R2009

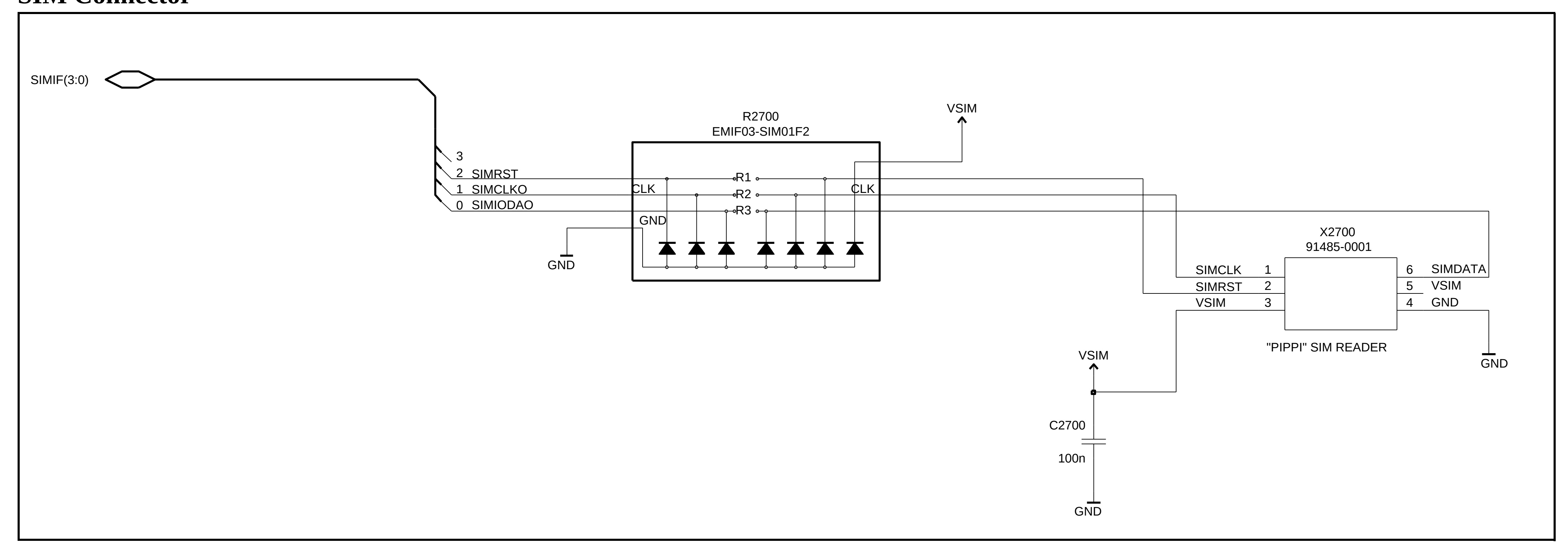
VPP PRODTP2 PRODTP7 PRODTP3
J2010
NOT_INSTALLED
E2000 E2001 E2002 E2003 E2004 E2205 E2006 E2007
V2002
IP4043CX5
NOT_INSTALLED

User Interface

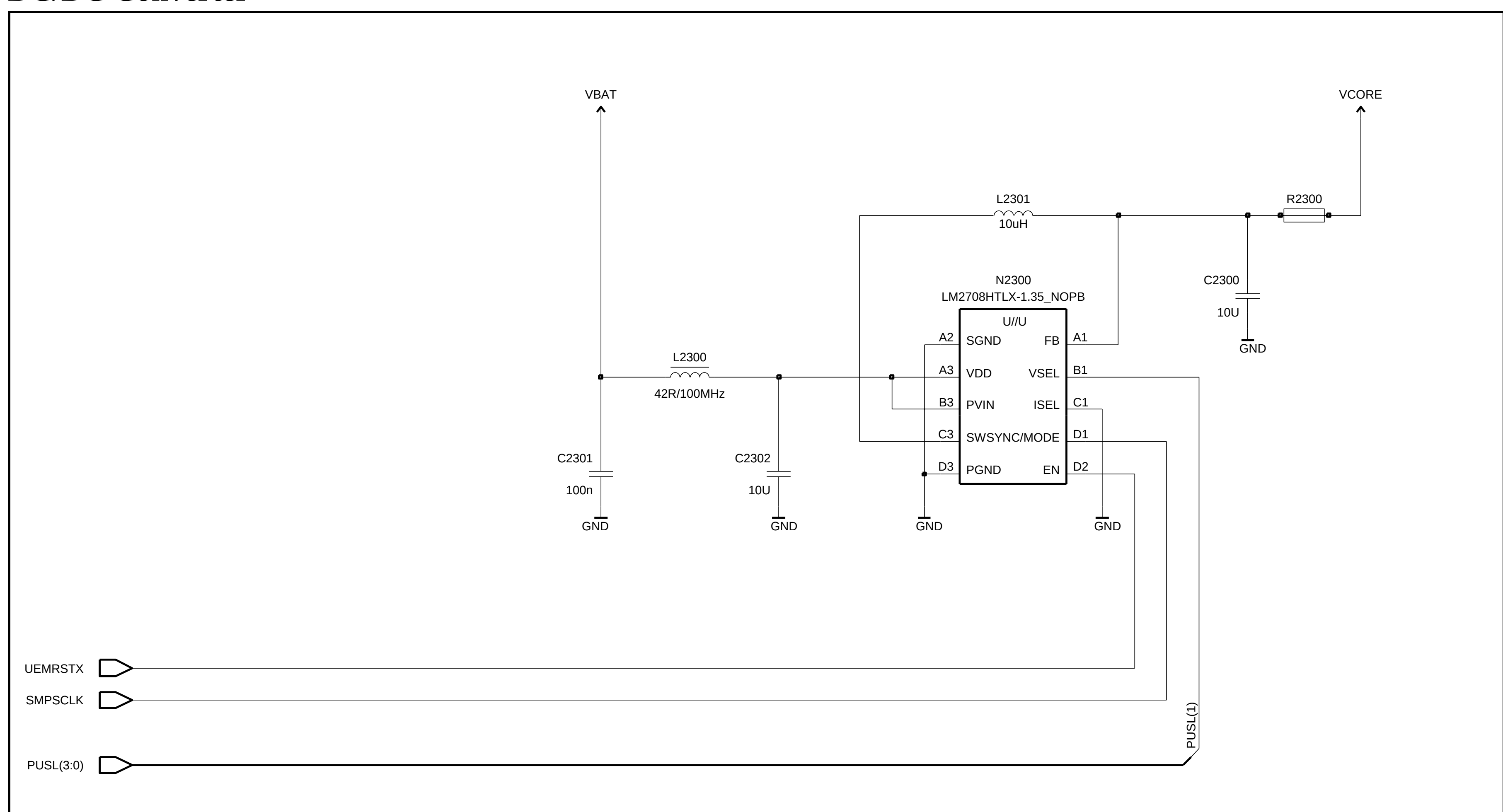
Audio


EARPIECE CONTACTS
"EARP"
"EARN"
"MICB1"
"MIC1P"
"MIC1N"
R2100
1 /2 5R6
2 /2 5R6
EARP
EARN
J2100
J2101
B2100
NOT_INSTALLED
R2105
? /2 VWM16V
Place at B2100
MICROPHONE CONTACTS
B2101
OUT
GND
MIC1P
MIC1N
AUDIO(6:0)
C2100
C2101
39p
AGND1
R2101
1 /2 1k0
2 /2 1k0
2x1k0
R2102
47k
C2102
2x100n
? /2 100n
R2103
C2104
47p
R2104
C2105
100n
ACI
"HOOKINT"
"MICB2"
"MIC2P"
"MIC2N"
"HFCM"
"HF"
XMIC(2:0)
XEAR(3:0)
"XMICP"
"XMICN"
"XEARN"
"XEARP"
R2106
R2107
R2108
R2109
C2106
C2107
C2108
1/2 100n
2/2 100n
C2109
C2110
R2110
1 /2 5R6
2 /2 5R6
XAUDIO(17:0)
GENIO(31:0)
IHF
AUDIO AMPLIFIER
N2100
LM4990ITLX
IN-
IN+
Vo2
Vo1
_Shutdwn
Bypass
B1,B2= GND
B3= VBAT
R2111
470R
R2112
5k6
R2113
180k
C2111
2n2
C2112
22n
C2113
22n
C2114
1u0
C2115
C2116
100n
C2117
1u0
C2118
22p
VBAT
GND
Capacitors should be placed near
N150, Audio Amplifier, and connected
to VBAT & GND pins.
IHF CONTACTS
L2100
L2101
240R/100MHz
IHF_P
IHF_N
J2104
J2104_B
J2105
J2105_B
514B011

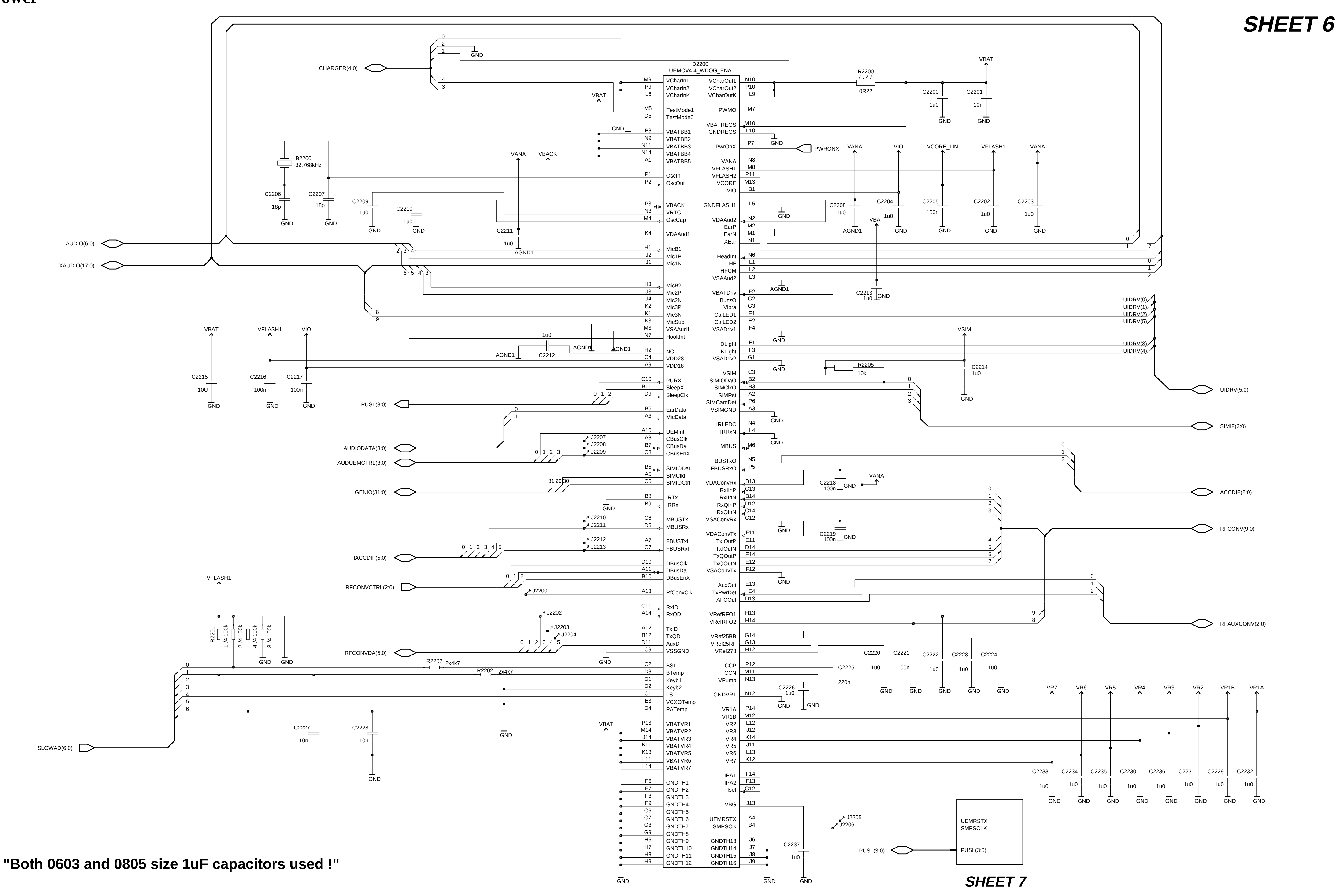
SIM Connector



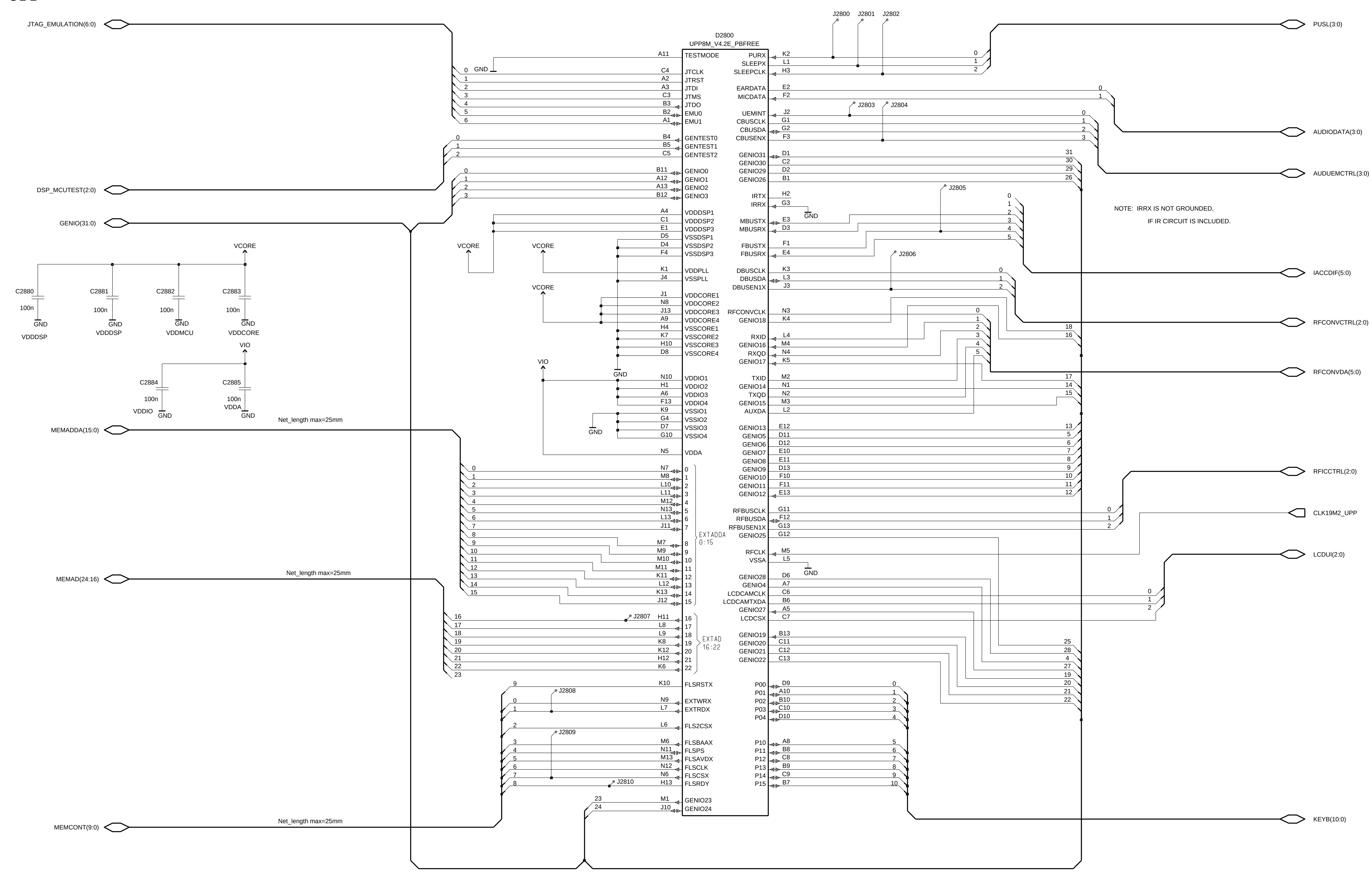
DC/DC Converter



Power

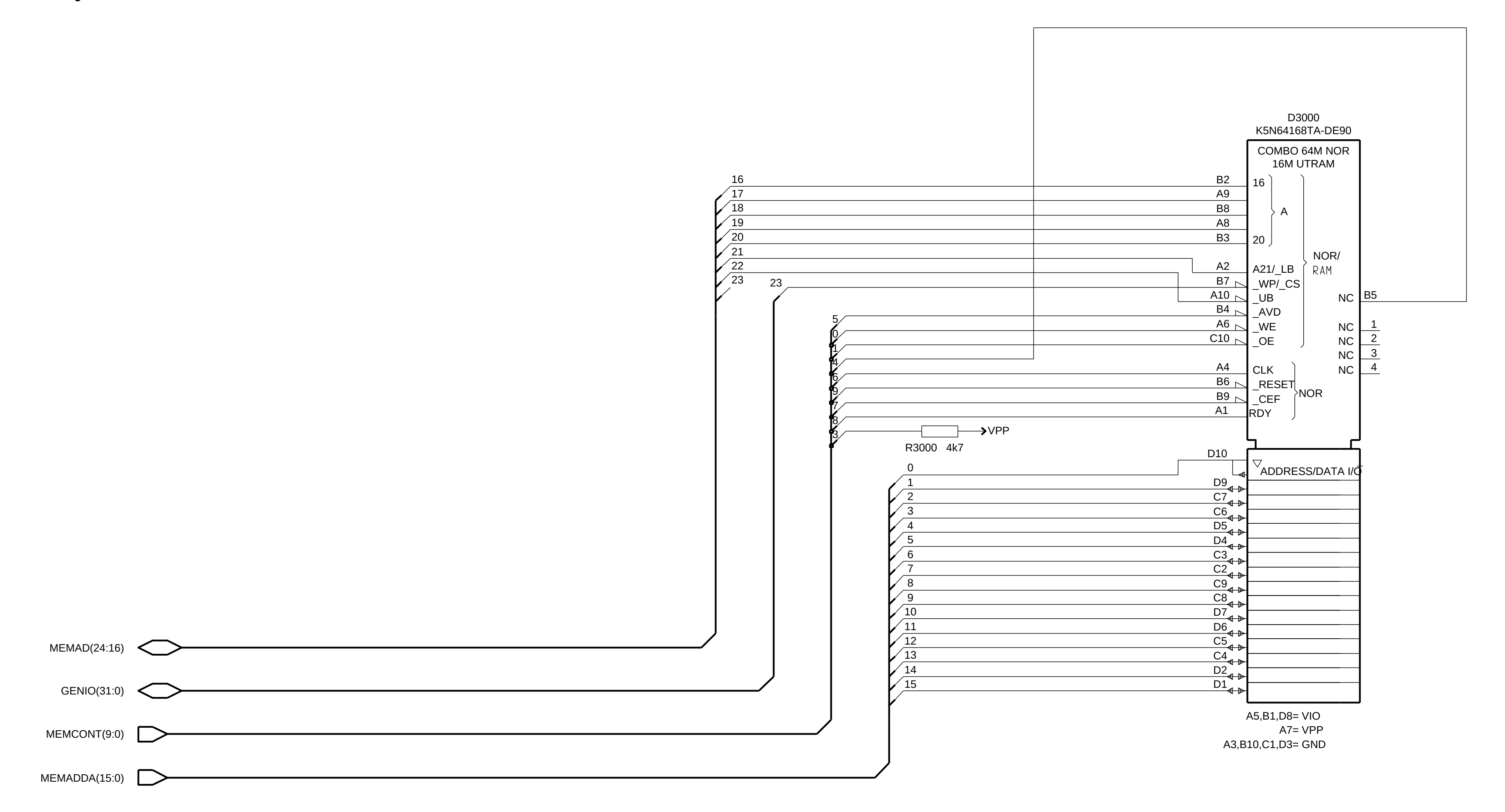

SHEET 6
D2200
UEMCV4.4_WDOG_ENA
CHARGER(4:0)
AUDIO(6:0)
XAUDIO(17:0)
PUSL(3:0)
AUDIODATA(3:0)
AUDUEMCTRL(3:0)
GENIO(31:0)
IACCDIF(5:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
SLOWAD(6:0)
UIDRV(5:0)
SIMIF(3:0)
ACCDIF(2:0)
RFCONV(9:0)
RFAUXCONV(2:0)
UEMRSTX
SMPSCLK
PUSL(3:0)
SHEET 7
"Both 0603 and 0805 size 1uF capacitors used !"

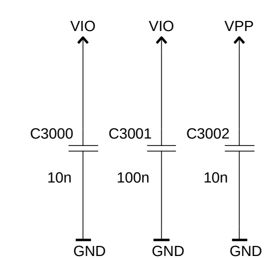
UPP



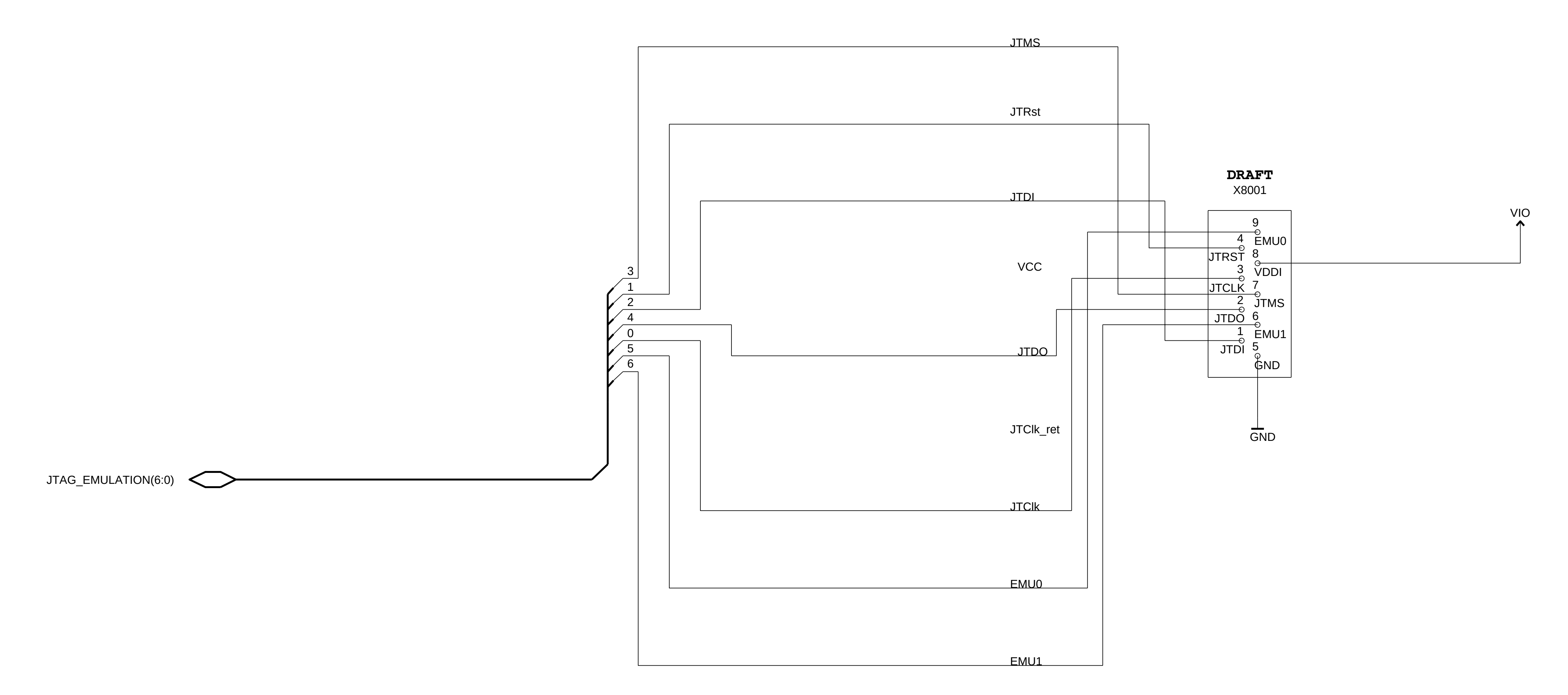
RF-BB Interface

Memory


D3000
K5N64168TA-DE90
COMBO 64M NOR
16M UTRAM
A
NOR/
RAM
A21/_LB
_WP/_CS
_UB
_AVD
_WE
_OE
CLK
_RESET
_CEF
RDY
NOR
NC
ADDRESS/DATA I/O
R3000 4k7
VPP
A5,B1,D8= VIO
A7= VPP
A3,B10,C1,D3= GND
MEMAD(24:16)
GENIO(31:0)
MEMCONT(9:0)
MEMADDA(15:0)

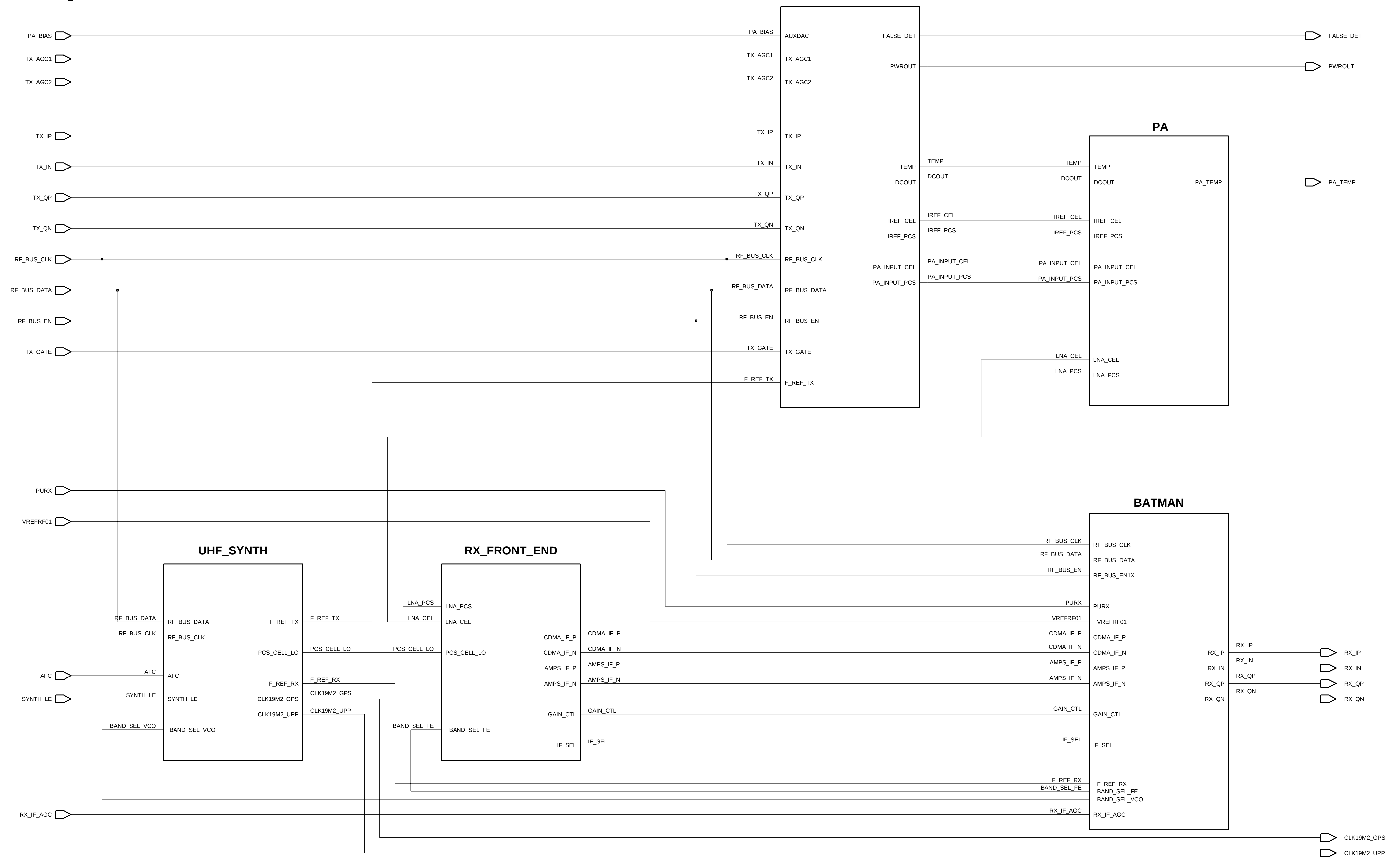

VIO
VIO
VPP
C3000
C3001
C3002
10n
100n
10n
GND
GND
GND

JTAG and Ostrich Connectors

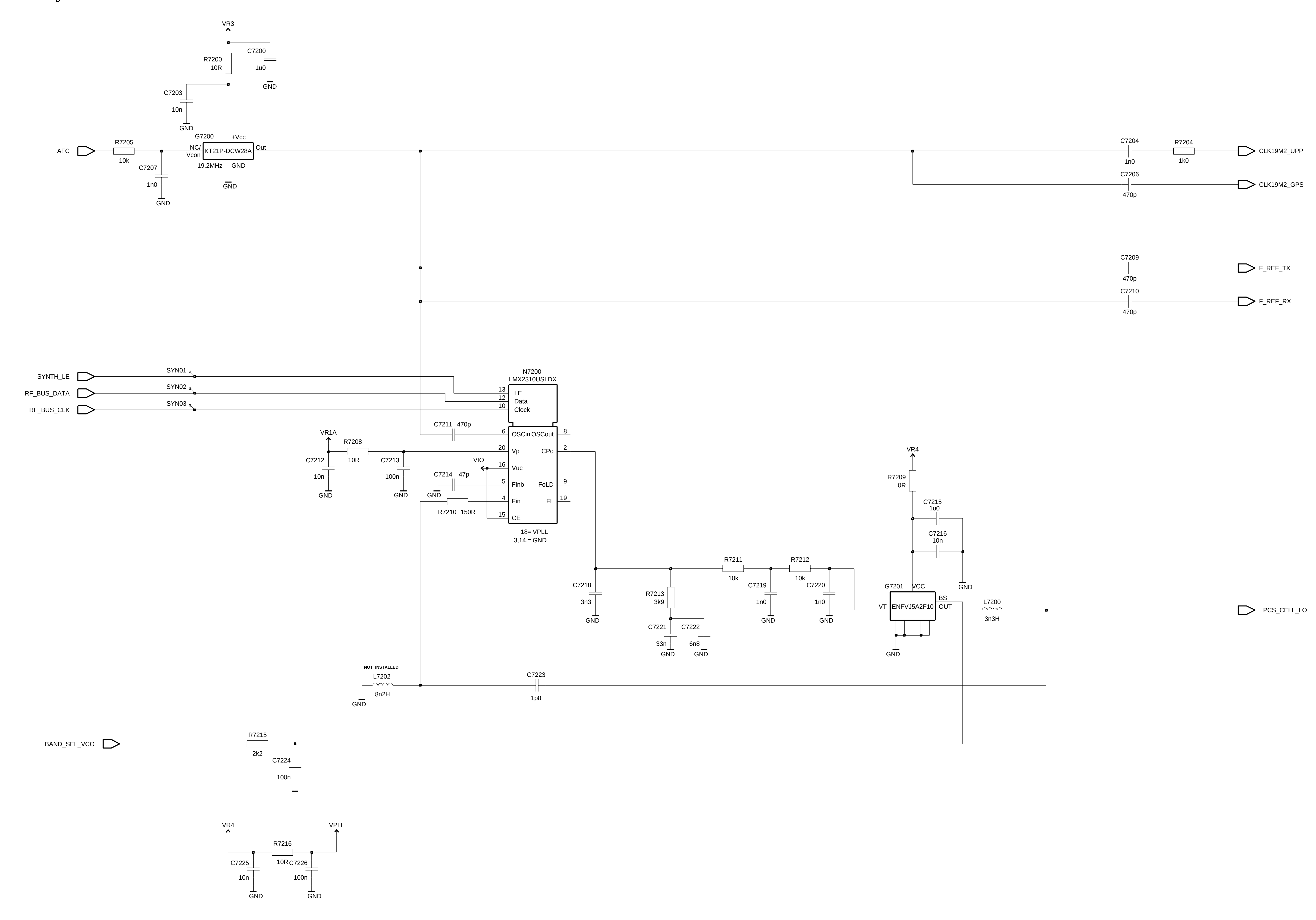




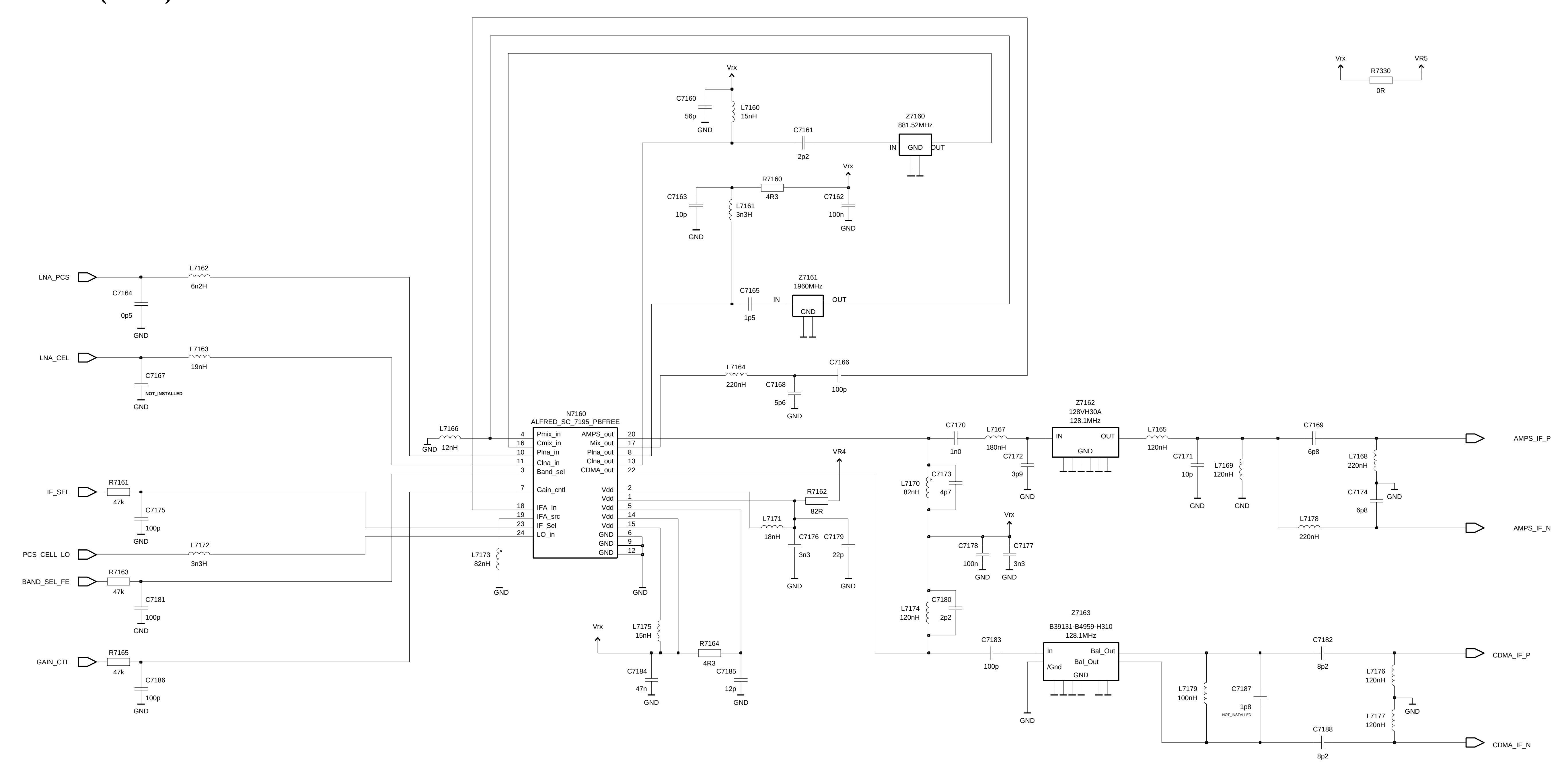
RF - Top Level


PA
BATMAN
UHF_SYNTH
RX_FRONT_END
PA_BIAS
TX_AGC1
TX_AGC2
TX_IP
TX_IN
TX_QP
TX_QN
RF_BUS_CLK
RF_BUS_DATA
RF_BUS_EN
TX_GATE
F_REF_TX
AUXDAC
FALSE_DET
PWROUT
TEMP
DCOUT
IREF_CEL
IREF_PCS
PA_INPUT_CEL
PA_INPUT_PCS
PA_TEMP
LNA_CEL
LNA_PCS
PURX
VREFRF01
RF_BUS_EN1X
AFC
SYNTH_LE
BAND_SEL_VCO
PCS_CELL_LO
F_REF_RX
CLK19M2_GPS
CLK19M2_UPP
CDMA_IF_P
CDMA_IF_N
AMPS_IF_P
AMPS_IF_N
GAIN_CTL
IF_SEL
BAND_SEL_FE
RX_IF_AGC
RX_IP
RX_IN
RX_QP
RX_QN

UHF Synthesizer

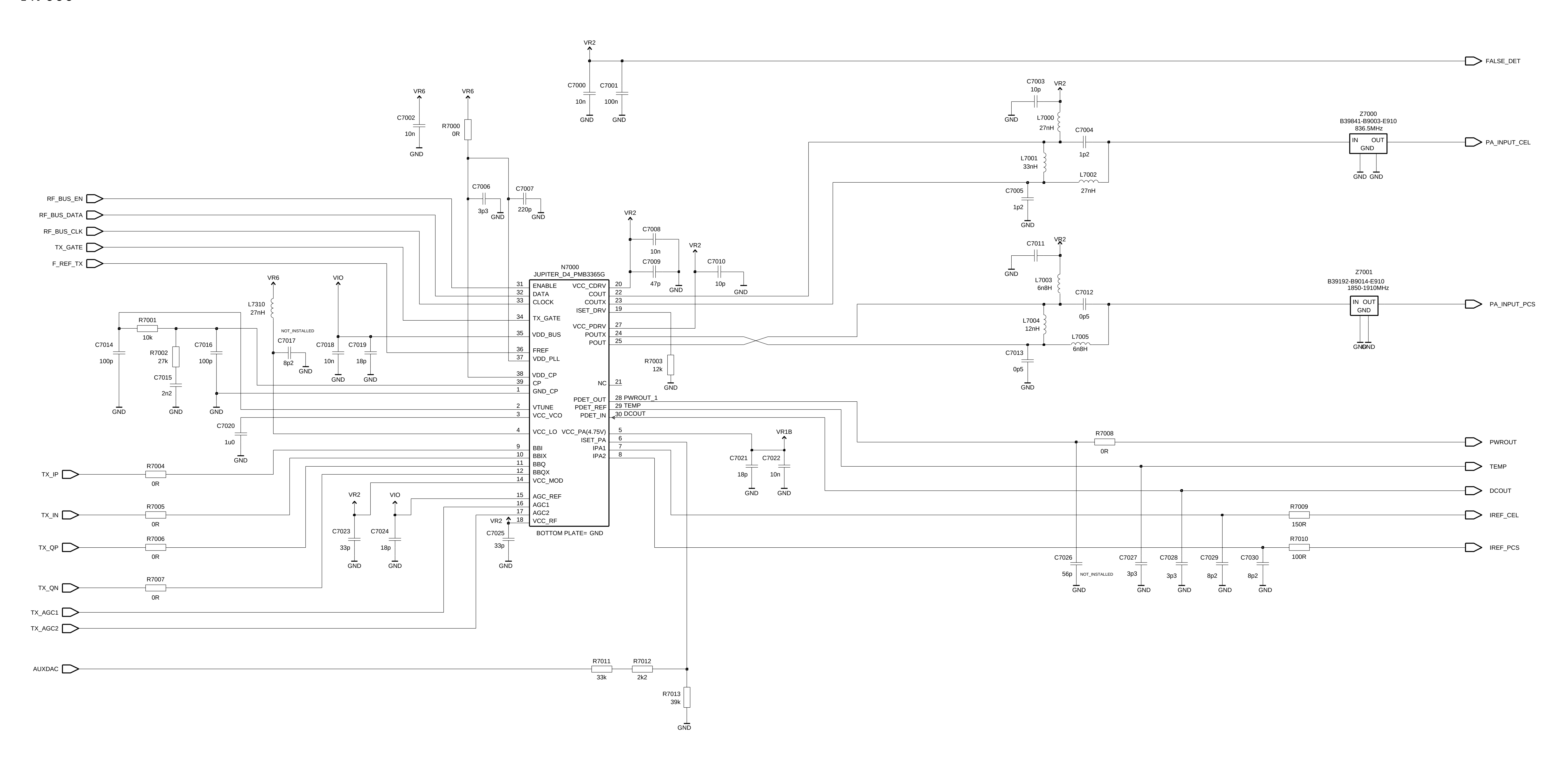


Front End (N7160)



	LOGIC INPUTS		
MODES	BAND	GAIN_CTL	IF_SEL
CEL CDMA Hi Gain	0	1	0
CEL CDMA Lo Gain	0	0	0
PCS CDMA Hi Gain	1	1	0
PCS CDMA Lo Gain	1	0	0
AMPS Hi Gain	0	1	1
AMPS Lo Gain	0	0	1

N7000


N7000
JUPITER_D4_PMB3365G
ENABLE
DATA
CLOCK
TX_GATE
VDD_BUS
FREF
VDD_PLL
VDD_CP
CP
GND_CP
VTUNE
VCC_VCO
VCC_LO
BBI
BBIX
BBQ
BBQX
VCC_MOD
AGC_REF
AGC1
AGC2
VCC_RF
VCC_CDRV
COUT
COUTX
ISET_DRV
VCC_PDRV
POUTX
POUT
NC
PDET_OUT
PDET_REF
PDET_IN
VCC_PA(4.75V)
ISET_PA
IPA1
IPA2
BOTTOM PLATE= GND
RF_BUS_EN
RF_BUS_DATA
RF_BUS_CLK
TX_GATE
F_REF_TX
TX_IP
TX_IN
TX_QP
TX_QN
TX_AGC1
TX_AGC2
AUXDAC
FALSE_DET
PA_INPUT_CEL
PA_INPUT_PCS
PWROUT
TEMP
DCOUT
IREF_CEL
IREF_PCS
Z7000
B39841-B9003-E910
836.5MHz
Z7001
B39192-B9014-E910
1850-1910MHz
NOT_INSTALLED

PA

PA_INPUT_PCS
R7300
0R
IREF_PCS
W=0.1mm
L=16mm
N7302
RF3448E5
RFin
Vid
Iref/Vref
NA
Vcc1
Vcc2
RFout
NA(CX2)
GND/NC
GND
BOT_SURF=GND
PCS
C7304 1n0
C7305 6p8
C7306 10n
C7307 15p
C7308 2p7
C7309 1n0
NOT_INSTALLED
C7322 2p2
C7300 1p5
L7308 4n7H
Z7301
DUPLEX FILTER
TX
RX
ANT
PCS
LNA_PCS
R7301 56R
L7302 EHF4CM1880
R7311 0R NOT_INSTALLED
Z7300
DIPLEXER
P1
P2
P3
R7303 0R NOT_INSTALLED
U1
X7300
In R
In C
C7301
C7302
C7303
L7303 68nH
R7302 0R
N7300 STPAC01F2
RFin
VTemp
Gnd1
DCout
Bias
Gnd2
VR2
C7311 10n
C7312 3n3
C7313 3n3
VBAT
C7310 10U
L7304 10nH
R7304 100R
TEMP
R7305 100R
DCOUT
R7306 0R
L7305 3n3H
L7306 EHF4CM0836A
R7307 56R
PA_INPUT_CEL
R7308 0R
IREF_CEL
N7301
RF3449E4
Vbias
Iref
NC
C7314 47p
C7315 2p7
L7307 6n8H
Z7302
LNA_CEL
R7309 47k
PA_TEMP
C7316 1n0
C7317 1n0
C7318 100p
C7319 1n0
C7320 1n0
C7321 3p3
CELL
GND

N7100

F_REF_RX

R7100 1k0
C7100 10n
C7101 330n
C7102 33n
R7101 470R
R7102 4k7
C7103 33p
C7104 1n0
V7100 BBY57-02W
L7101 33nH

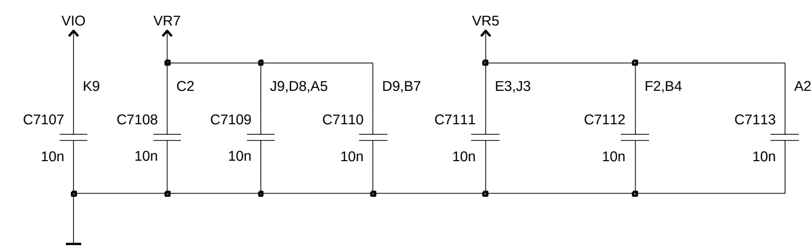
N7100
BATMAND_PBFREE

VR5 E3 VCC_CH
K8 CLK19M2
F1 PD_LO2
E1 RESO_LO2
A1 RX_VHFBUF_p
B1 RX_VHFBUF_n
VR5 A2 VCC_LO
VR7 A3 GND_LO
C2 VCC_PLL2
C1 VSS_PLL2

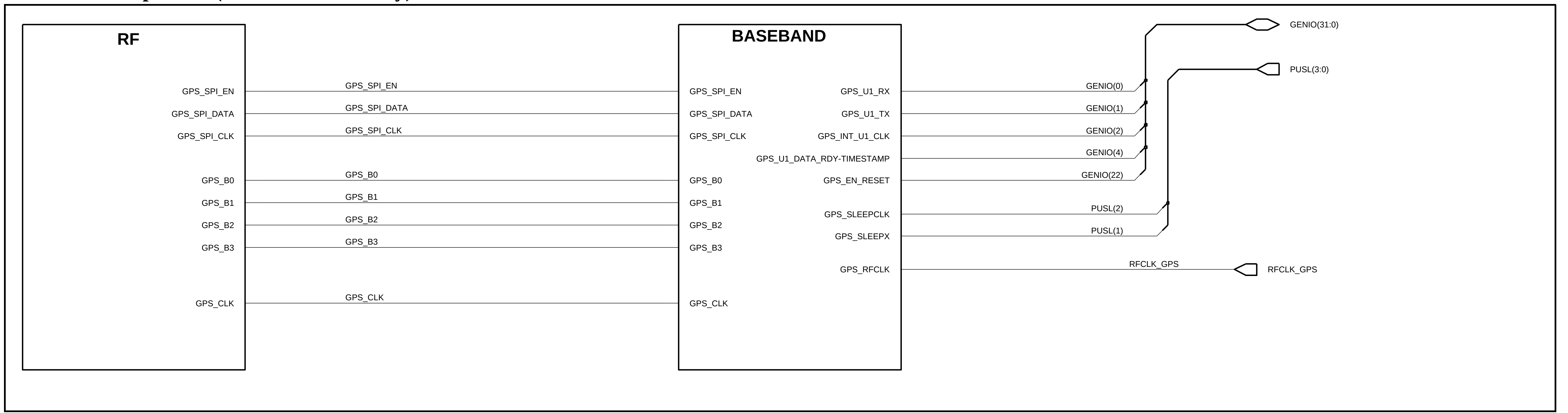
TEST_OUT B2
GND_CH D2
RFBusClk K7 RF_BUS_CLK
RFBusEn1X H5 RF_BUS_EN1X
VCO_ctrl J10 BAND_SEL_FE
LPB_SW K10
VCC6 C3 VR5
GND6 D1
VCC_DIGI K9 VIO
VSS_DIGI K6
Reset J5 PURX
RFBusData J6 RF_BUS_DATA
OUT1 H9 BAND_SEL_VCO
OUT2 H8
OUT3 G8 GAIN_CTL
OUT4 F10
OUT5 A7 BATM01
OUT6 A6 IF_SEL
VCC_CTRL B7 VR7
GND_CTRL B8
VCC_bias F2 VR5
GND_bias H1

RXIP RXIN RXQP RXQN
RX_IP J1 RX_IP
RX_IN H2 RX_IN
RX_QP K1 RX_QP
RX_QN K2 RX_QN
IFI_TEST_p E8
IFI_TEST_n E9
IFQ_TEST_P G9
IFQ_TEST_n G10
GND_IF A4
VCC_IF B4 VR5 VR5
VDD9 J3
VSS9 K3
OFFQ K5
OFFI K4

VR7
CDMA_IF_P J9 VCC_ext
CDMA_IF_N H10 VSS_ext
AMPS_IF_N C10 RX_IF_p
AMPS_IF_P B10 RX_IF_n
A9 RX_IF1_n
A10 RX_IF1_p
D8 VCC4
A8 GND4
A5 VCC8
B6 GND8a
B5 GND8b
VIO R7103 8k2
C7105 10n
E10 AGC_Ref
RX_IF_AGC F9 RX_IF_AGC
D9 VCC5
D10 GND5
R7104 27k G2 Rbias
G1 Vref
VREFRF01
C7106 10n

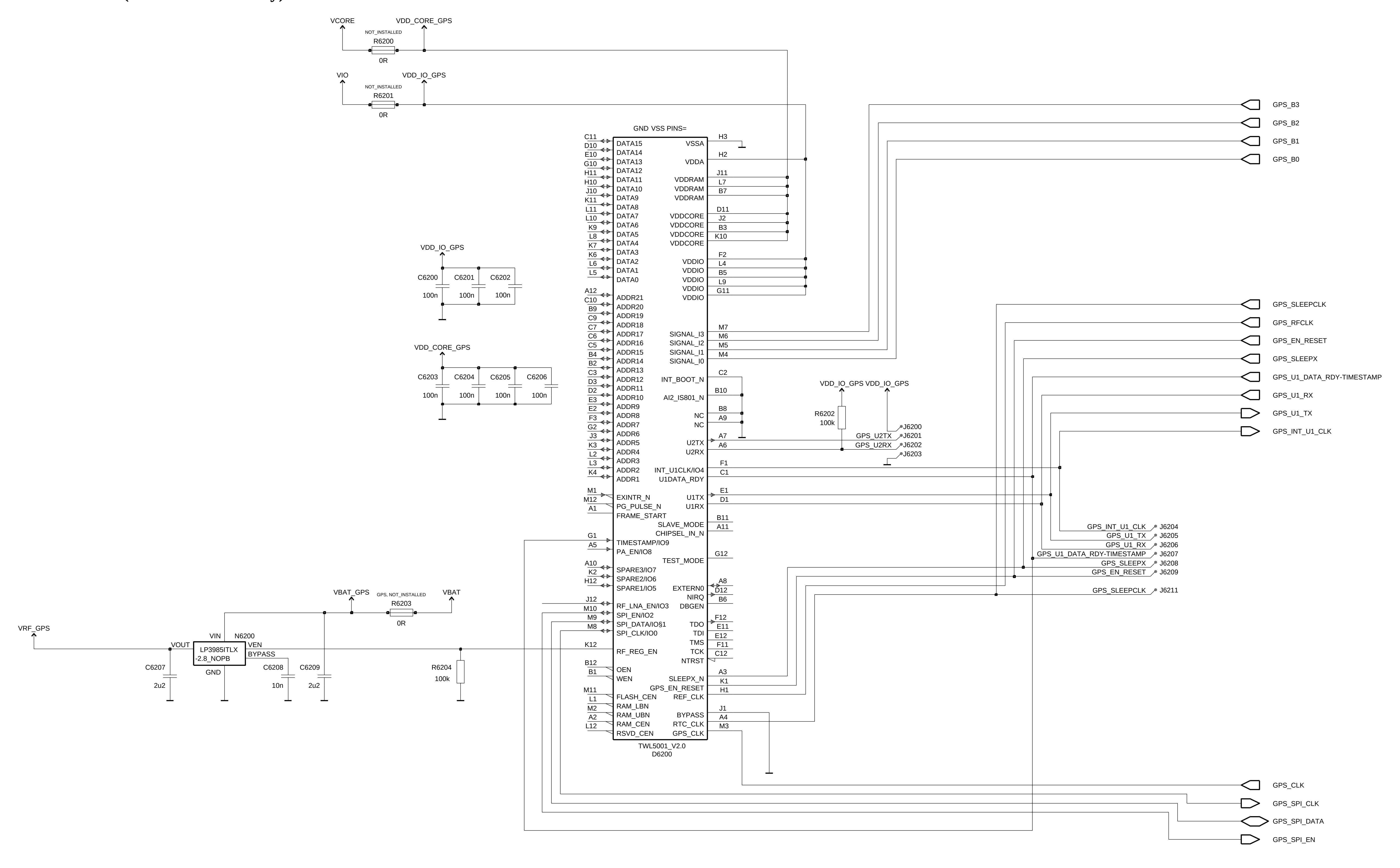


GPS RF-BB Top Level (2115i and 2116i only)

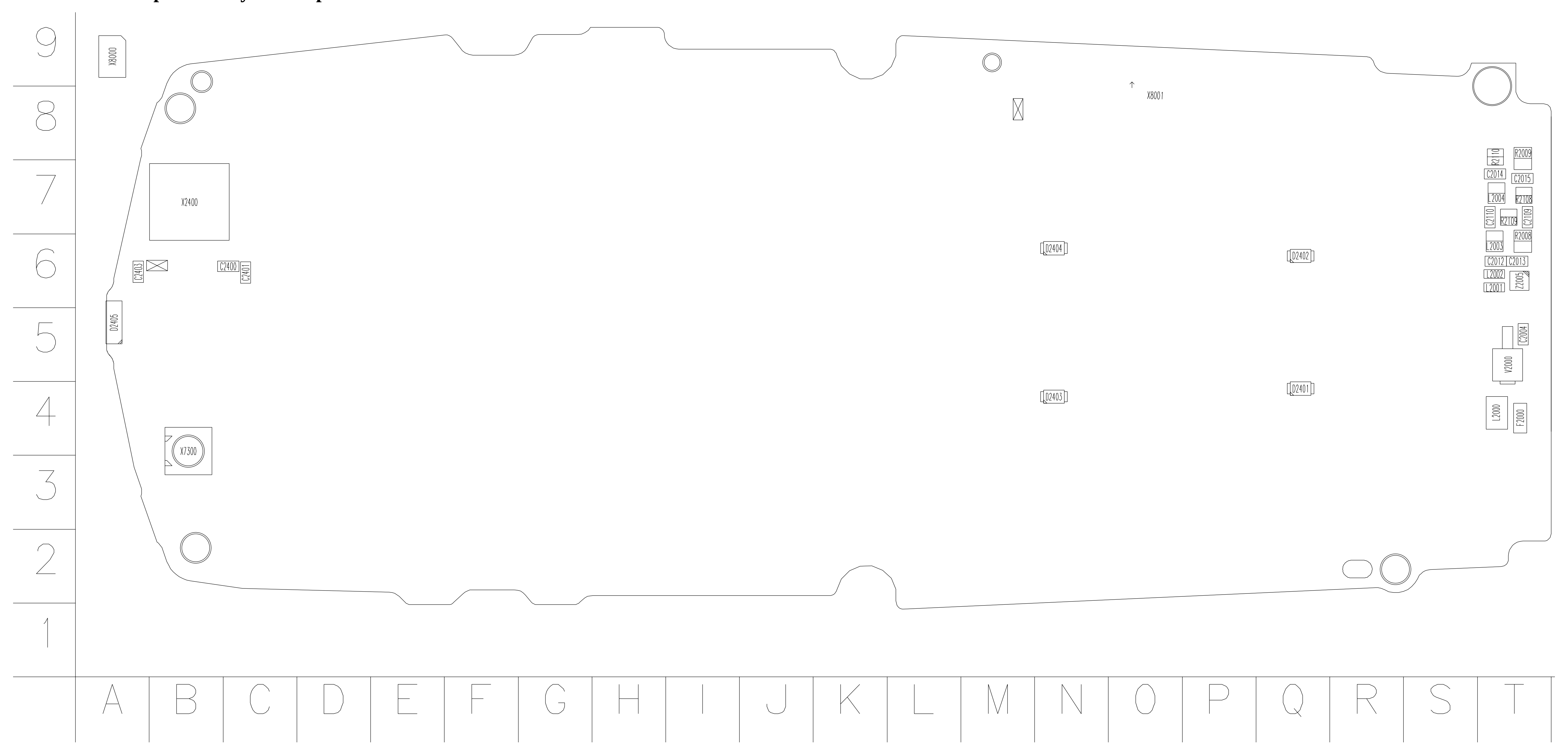


GPS RF (2115i and 2116i only)

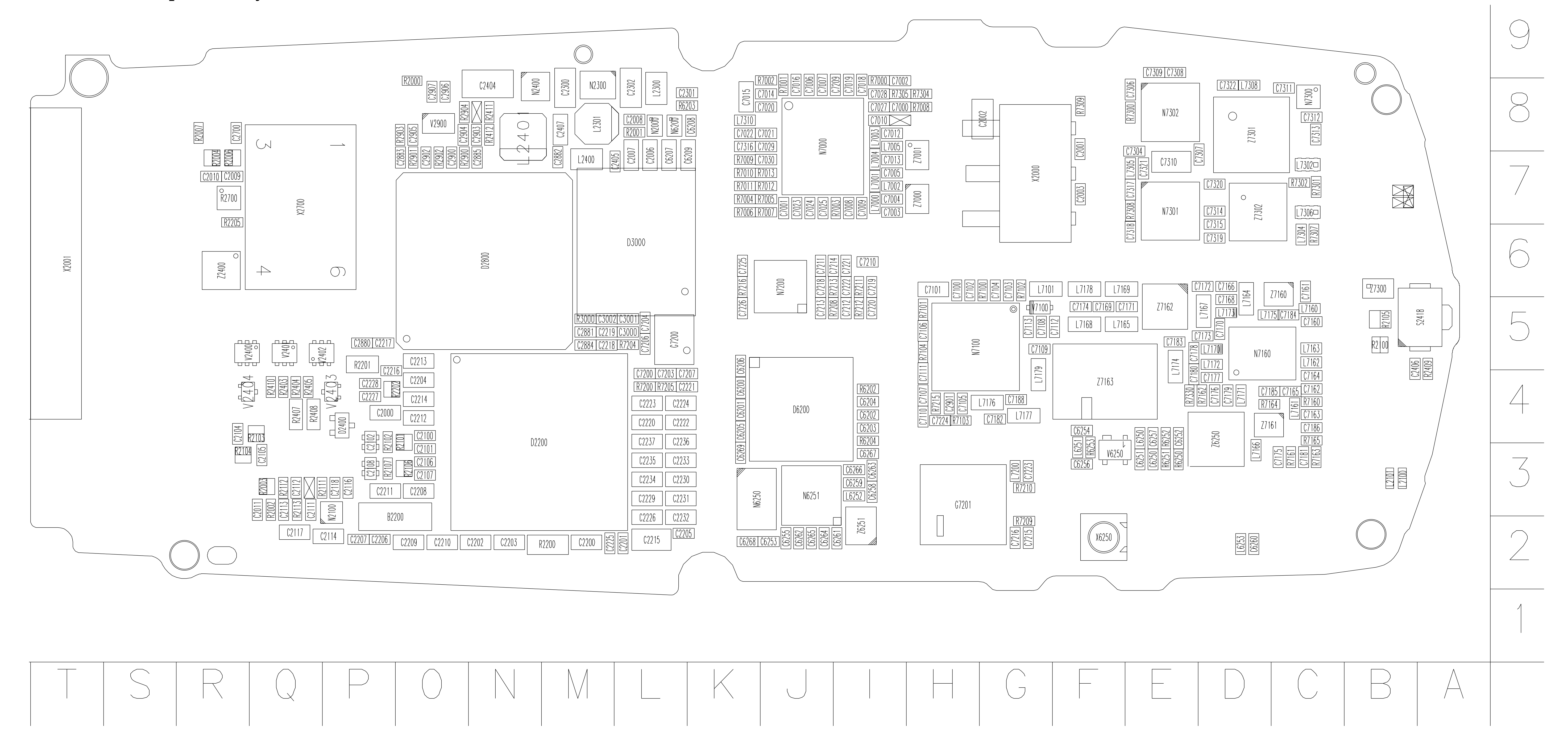
GPS Baseband (2115i and 2116i only)



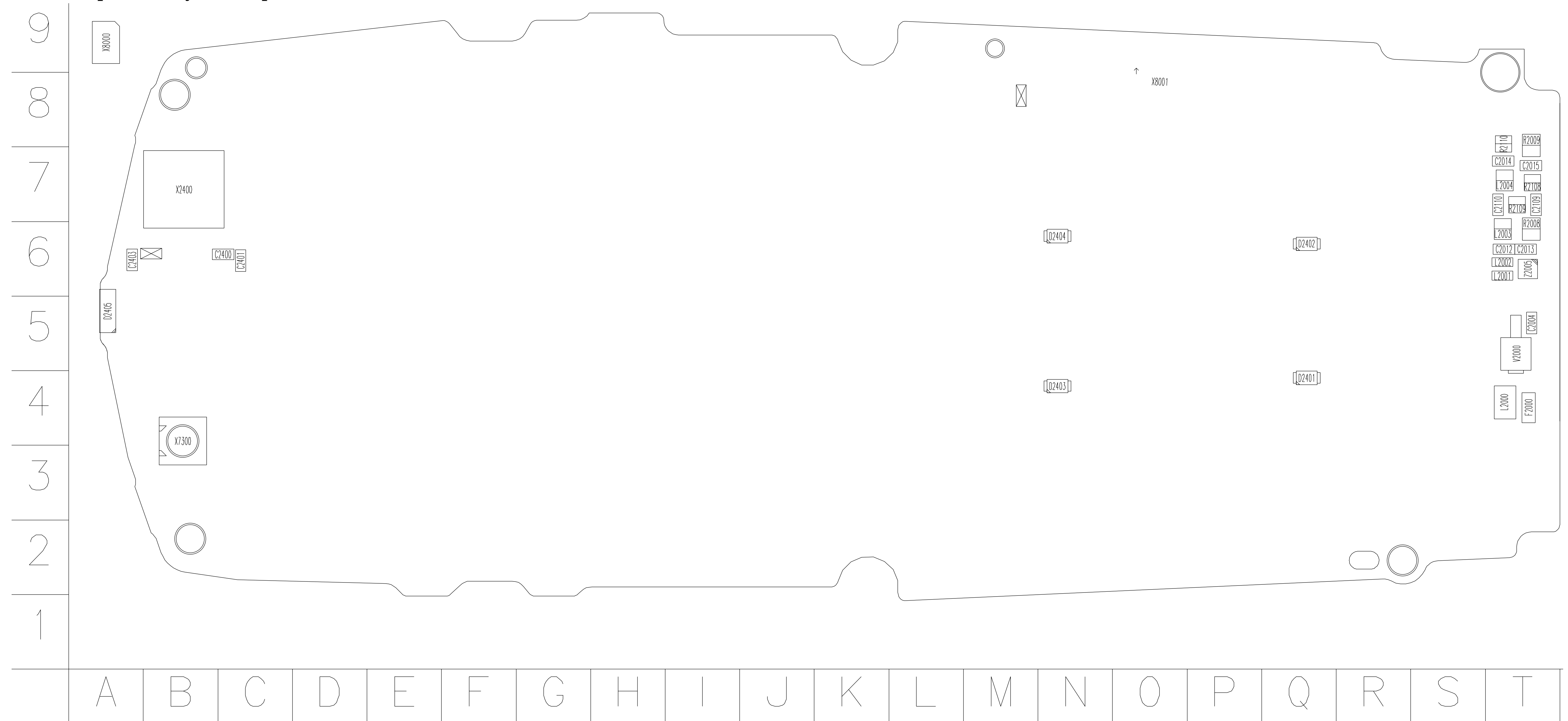
2115i/2116i Component Layout - Top



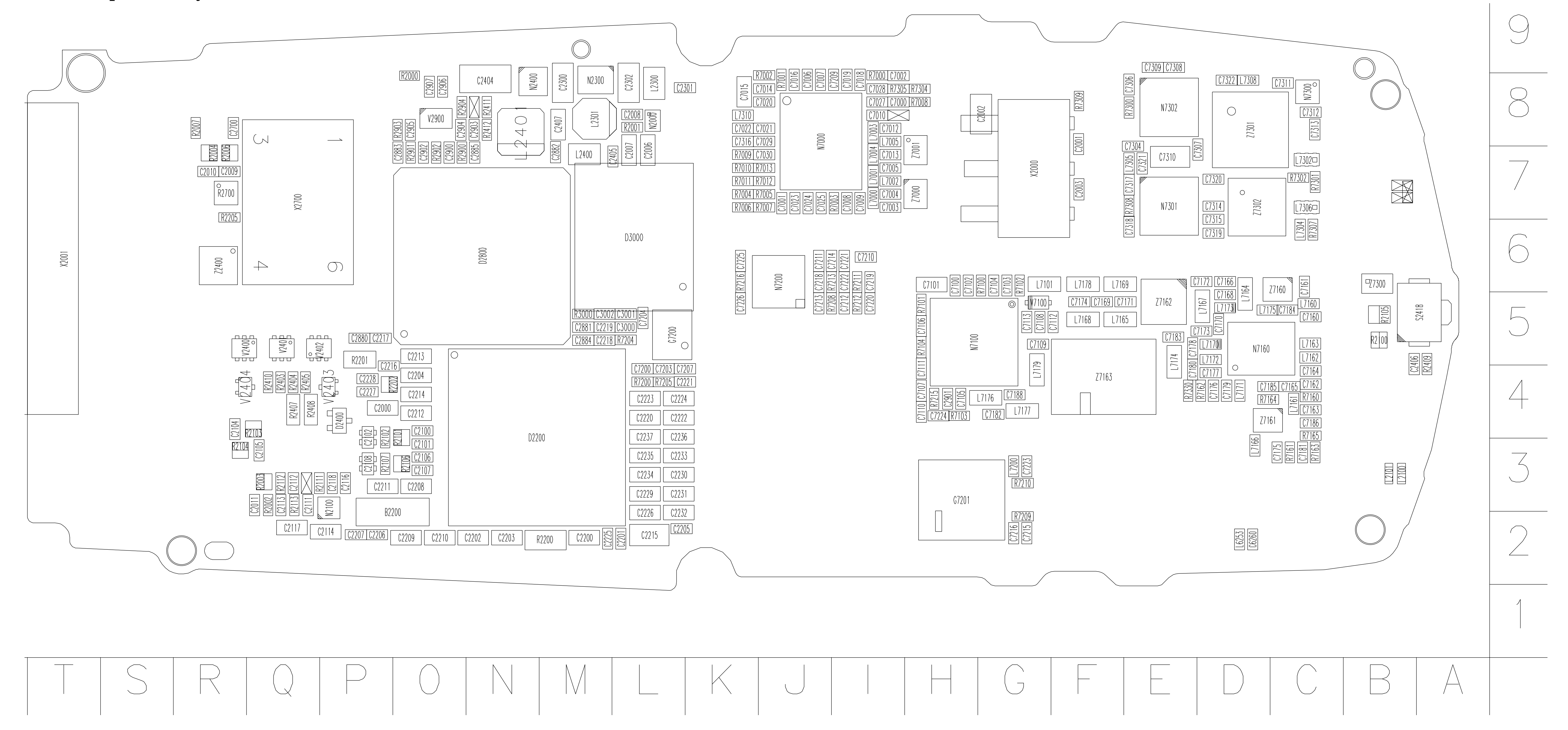
2115i/2116i Component Layout - Bottom



2116 Component Layout - Top



2116 Component Layout - Bottom



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